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|------------------|-----------------------------------|----------------------------|------------------|
| <b>Job Title</b> | <b>Fire Protection Engineer I</b> | <b>FLSA Status</b>         | <b>Exempt</b>    |
| <b>Band</b>      | <b>PRO</b>                        | <b>Probationary Period</b> | <b>12 Months</b> |
| <b>Zone</b>      | <b>5</b>                          | <b>Job Code</b>            | <b>16064</b>     |

## Class Specification – Fire Protection Engineer I

### **Summary Statement:**

The purpose of this position is to perform a variety of engineering functions for the fire department to ensure improved fire and life safety for the community through specialized education and training. This is accomplished by code compliance and analytical plan review of complex fire protection feature; code consulting and interpretation; risk analyzing; and supporting and engineering assistance. Other duties include assisting fire investigations; developing, implementing, and delivering training classes and materials for internal and external customers; and conducts fire modeling.

### **Essential Functions**

Note: Regular and predictable attendance is an essential function in the performance of this job.

### **Time %** (All below must add to 100%)

Note: Time spent on each essential function will vary based on operational needs and is only intended to be an approximation over the course of a full year.

35%

Performs code compliance and analytical plan review by facilitating and attending meetings; generates plan review comments and reports; performs detailed analysis of potential fire hazards and coordination of various fire protection systems; coordinates fire and life safety aspects of design disciplines; and analyzes hydraulic, battery and other plan specific calculations.

5%

Serves on a variety of committees and boards including technical planning and review groups by attending meetings and serving on committees.

15%

Performs various program administration duties by establishing and generating program rules and regulations; creates word documents and PDFs; use various computer programs; and publishing information to the internet.

5%

Performs computer modeling for fire and life safety by understanding inputs and outputs of computer modeling software for fire growth, egress, and traffic movement.

7%

Performs code consulting and interpretations by facilitating and attending meetings; placing and returning calls; and documenting interpretations.



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|    |   |
|----|---|
| 5% | Performs complex risk analysis by generating correspondence and communicating with internal and external customers.   |
| 5% | Performs, develops, implements, and delivers code and fire protection system training by creating various word documents and PDFs; creates presentations; prepares training materials and handouts; creates videos for training and broadcast; and develops lesson plans. |
| 8% | Performs technical research on various codes and standards; reads technical journals; performs internet searches; writes reports; and makes recommendations.  |
| 5% | Performs large non-routine project supervision by facilitating and attending pre-design stakeholder meetings; serves as a point of contact of design team; and identifies alternatives to meet code intentions.   |
| 2% | Performs support assistance in emergency situations by providing code consultation for emergency responders; writes inspection reports; communicates with emergency responders; and provides on-call, after-hours response.   |
| 2% | Evaluates performance based design and alternative methods and materials by reading and reviewing corresponding documents; facilitating and attending meetings; reviewing required codes and standards; and understanding fire dynamics.                                  |
| 2% | Performs technical and functional supervision over fire code inspections by serving as acting supervisor; assigning inspections; answering phone calls; coordinating inspections; and serving as Fire Marshal representative during various meetings.                     |
| 2% | Assists fire investigations by generating floor plans of buildings on AutoCAD; researches building history; provides fire dynamics insight; builds and runs computer fire models; and provides cause fault investigation on system activation or failure.                 |
| 2% | Performs complex code compliance inspections by communicating with internal and external customers verbally and non-verbally; generates inspection and other reports; takes notes; takes photographs of code violations; and checks computer usages.                      |



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### **Competencies Required:**

**Human Collaboration Skills:** Interactions have significant impact and may involve recommendations regarding potential policy development and implementation. Position evaluates customer satisfaction, develops cooperative associations, and utilizes resources to continuously improve customer satisfaction.

**Reading:** Advanced - Ability to read literature, books, reviews, scientific or technical journals, abstracts, financial reports, and/or legal documents. Ordinarily, such education is obtained at the college level or above. However, it may be obtained from experience and self-study.

**Math:** Advanced - Ability to apply fundamental concepts of theories, work with advanced mathematical operations methods, and functions of real and complex variables. Ordinarily, such education is obtained at the college level or above. However, it may be obtained from experience and self-study.

**Writing:** Advanced - Ability to write editorials, journals, speeches, manuals, or critiques. Ordinarily, such education is obtained at the college level or above. However, it may be obtained from experience and self-study.

### **Technical Skills Required:**

**Skilled in a Technical Field:** Work requires a comprehensive, practical knowledge of a technical field with use of analytical judgment and decision-making abilities appropriate to the work environment of the organization.

**Relevant Background and Formal Education:** Demonstrated skills, competencies, and knowledge required for this job are most often acquired through the following practical experience and level of academic education and training as suggested below.

**Education:** Bachelor's degree from an accredited college or university with major coursework in Fire Protection Engineering or related field.

**Experience:** One year of full-time fire protection engineering experience and experience in preparing and reviewing plans and specification for construction and fire protection systems.



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| <b>Certifications and Licenses:</b> Must possess or be able to acquire the following certifications and/or licenses. |                          |
| Engineer Intern  | Within 12 months of hire |
| International Code Council (ICC) Fire Inspector II   | Within 12 months of hire |
| International Code Council (ICC) Fire Plans Examiner   | Within 12 months of hire |
| Hazardous Materials Awareness  | Within 12 months of hire |
| State of Colorado Inspector III/Plans Examiner   | Within 12 months of hire |
| State of Colorado Fire Suppression System Inspector  | Within 12 months of hire |
| ICS 100  | Within 12 months of hire |
| ICS 200  | Within 12 months of hire |
| ICS 300  | Within 12 months of hire |
| ICS 400  | Within 12 months of hire |
| ICS 700  | Within 12 months of hire |
| ICS 800  | Within 12 months of hire |
| Certifications required in accordance with standards established by departmental policy.                             |                          |

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| <b>Supervision Exercised:</b>  |
| Work requires functioning as a lead worker performing essentially the same or higher level work as those directed, and includes overseeing work quality, training, instructing, and scheduling of work.  |
| <b>Supervision Received:</b>   |
| Receives General Direction: The employee normally performs the job by following established standard operating procedures and/or policies. There is a choice of the appropriate procedure or policy to apply to duties. Performance review periodically. |

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| <b>Fiscal Responsibility:</b>                   |
| This job title has no budgetary responsibility. |

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| <b>Physical Demands:</b>  |
| Exerting 20-50 lbs. occasionally; 10-25 lbs. frequently; or up to 10 lbs. constantly. |



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| <b>Environmental Conditions</b>      | <b>Frequency</b>        |
|--------------------------------------|-------------------------|
| Primary Work Environment             | Office Environment      |
| Extreme Temperature                  | Seasonally              |
| Wetness and Humidity                 | Seasonally              |
| Respiratory Hazards                  | Several Times per Month |
| Noise and Vibrations                 | Several Times per Month |
| Physical Hazards                     | Several Times per Month |
| Mechanical and/or Electrical Hazards | Rarely                  |
| Exposure to Communicable Diseases    | Rarely                  |

**Machines, Tools, Equipment, and Work Aids:** Hose, hose monsters, spanner wrenches, hydrant wrenches, pitot tubes, issued vehicle, drawing scales, calculator, digital scales, handie talkie, common hand tools, SCBA, personal protective equipment, ladders, camera, thermocouples/digital thermometer, computer, printer, copier, telephone, and standard office equipment.

**Specialized Computer Equipment and Software:** Microsoft Office.

*The description above is intended to represent only the key areas of responsibilities; specific job assignments, duties, and environmental conditions will vary depending on the business need of the department and the particular assignment.*

Original Date: June 2015